MUSCULAR PSEUDOHYPERTROPHY (STEATOSIS) IN A BUFFALO CALF DELIVERED BY FETOTOMY

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ABSTRACT

Muscular pseudohypertrophy of a localized region known as steatosis was observed in a full-term buffalo calf delivered per-vaginum after fetotomy. Excessive enlargement of musculature of cervical and shoulder region of right fore-limb was the cause of dystocia.

Keywords: Buffalo, Fetotomy, Muscular Pseudohypertrophy, Steatosis, Vaginal delivery

INTRODUCTION

Enlargement of the atrophic muscle due to replacement of muscle by fat and fibrous tissue is known as muscular pseudohypertrophy (Valentine and McGavin, 2007). Muscular pseudohypertrophy is poorly documented in Veterinary medicine compared to human medicine. In livestock, especially cattle and pigs, muscular pseudohypertrophy due to a localized muscular defect is known as steatosis (Hulland, 1993, Valentine and McGavin, 2007). The rate of congenital musculoskeletal anomalies of thorax and neck is reported as 1.48 per 10,000 births in cattle (Doyle *et al.*, 1990). This report describes the gross aspects of congenital muscular pseudohypertrophy characteristic of steatosis in a full-term buffalo calf and its successful vaginal delivery with fetotomy.

CASE HISTORY AND OBSERVATIONS

A full-term Murrah buffalo was straining since 8 hours and water bags had ruptured. Vigorous attempts were made at the farmer's doorstep for 5-8 hours for the delivery of calf. At the time of presentation of buffalo in the clinics, vulval lips were edematous, both the hind limbs of calf were hanging outside and vertebral column of calf had already broken. Moreover, according to farmer, during handling of case at his dairy farm by the field Veterinary officer, fetal abdominal viscera were already removed, as there was abdominal rupture during forced traction. Vaginal examination revealed excessive enlargement of the anterior portion of the calf, however, exact diagnosis of the calf abnormality was not possible. The calf had been conceived through artificial insemination.

TREATMENT AND DISCUSSION

After ample lubrication with one percent carboxymethyl cellulose sodium gel (SD-fine chem ltd), fetotomy of one of the fore limbs was completed using Thygeson's fetotome loaded with fetotomy wire (Bovivet, Denmark). Traction on the presented fetal parts successfully achieved fetal delivery. Amputated fore limb was removed followed by complete shedding of placenta. Amount of fetal fluids as well as morphological appearance of placenta was normal.

Gross examination of the calf revealed marked enlargement of musculature of cervical region and shoulder region of right fore limb as a cause of dystocia (Fig.). Also, nose and upper mandible was tilted towards right side. Marked amount of adipose tissue was also present below the eyeballs. The remainder of the body was normal. Grossly, the neck of calf was excessively enlarged due to large, firm, spherical masses covered

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by intact skin. The masses consisted of markedly enlarged muscles in the area of left splenius and right serratus ventralis cervicis muscle. The marked deformity of the neck of this calf could be due to massive adipose and fibrous connective tissue replacement of the markedly atrophic left splenius and right serratus ventralis cervicis muscle (Ingeborg *et al.*, 2007). These muscles were doughy on cut section. The consequential macroscopic enlargement of these neck muscles is typical of muscular pseudohypertrophy (Ingeborg *et al.*, 2007). A number of congenital defects of genetic and environmental cause (including viruses and toxins) have been reported (Leipold *et al.*, 1983), but the specific cause of the pseudohypertrophy of the neck musculature is not known. In summary, this case report demonstrates that the risk of maternal morbidity due to high-grade muscular pseudohypertrophy of calf can be avoided by ample lubrication of birth passage followed by effortless per-vaginum delivery through fetotomy.

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Fig.: Muscular pseudohypertrophy (steatosis) of calf